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Using Propranolol to Block Memory Reconsolidation in Female Veterans with PTSD

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14. ABSTRACT One of the hallmark features of Posttraumatic Stress Disorder (PTSD) is a marked increased in physical arousal (i.e., increased heart rate, muscle tension, etc.) when recalling a trauma-related memory. In this manner, a treatment that decreased the hyper-arousal of a traumatic memory to less-impairing levels may do well in allowing an individual with PTSD to return to his or her daily life. However, there is an imbalance at the heart of combat PTSD-related research: in over three decades' worth of research on combat stress PTSD physiology, only 3% (66 out of 1,985 participants) of the Veterans studied were women. This paucity of research is in the face of the fact that PTSD is twice as likely to occur in women. Our research investigates a novel method of reducing the hyper-arousal associated with combat memories in Female Operation Iraqi Freedom and Operation Enduring Freedom Veterans with PTSD. Our study compares Female Veterans who take propranolol after a combat memory to both Female Veterans who take a non-active placebo pill after a combat memory and those who take propranolol after a non-combat memory (to make sure that propranolol doesn't have a general effect on physical reactions). All participants in our study are tested during the early follicular phase of the menstrual cycle, a time in which levels of estrogen are low. Data collection has begun and continues at this time.					
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INTRODUCTION

In the current study, we will be investigating a method for blocking memory reconsolidation in three groups of female Veterans of either Operation Iraqi Freedom or Operation Enduring Freedom (OIF/OEF) with PTSD: 1) Individuals (n=20) who receive propranolol following recall of a traumatic memory (Propranolol-trauma); 2) Individuals (n=20) who receive a placebo following recall of a traumatic memory (Placebo-trauma), and; 3) Individuals (n=20) who receive propranolol following recall of an affective neutral memory (Propranolol-neutral). Memory recall will be psychophysiologicaly assessed by measuring facial corrugator electromyography (EMG), skin conductance, blood pressure and cardiovascular inter-beat interval responses immediately prior and four weeks following medication administration. We predict a significant drop in physiological reactivity to Veterans' trauma memories and PTSD intrusive symptoms in the Propranolol-trauma group.

BODY

The work accomplished in the last 12 months of the award focused on recruitment. The VA Connecticut Healthcare System agreed to send a study recruitment letter to all 600 Female OIF/OEF-era Veterans registered with the VA in the state of Connecticut. We received 40 responses from this mailer and enrolled one participant, who then dropped out after signing the consent. The primary reason Veterans did not wish to participate was some form of stigma or privacy concern: we could not convince the Veterans that enrolling in the Yale trial would not affect their military record or healthcare records.

We then initiated a recruitment drive via the Outpatient Psychiatric Services of the VA Connecticut Healthcare System, only to discover that Female Veterans were not enrolled in VA psychiatric care in these clinics. We created a roundtable discussion forum of OIF/OEF Veteran treatment providers in the Eastern seaboard New England area. The consensus was that all treatment providers we contacted experienced similar difficulties in contacting/ treating Female OIF/OEF era Veterans: the Male/Female ratio was drastically unbalanced, with many clinics not treating Female Veterans at all, and; difficulty establishing contact with the Female Veteran community, with a high rate of session cancellations and transient contact information.

We next attempted to improve recruitment by establishing ourselves in the OIF/OEF Veteran community. We created a conditioning study for OIF/OEF Veterans with very few exclusion criteria. The study was funded by the VA Connecticut Healthcare System and allowed us to recruit Veterans with and without PTSD and pay them for their participation. This allowed us an opportunity to meet with the Veterans, have them get to know us, and then approach the possibility of participation in the propranolol clinical trial after the conditioning study ended. This strategy did yield a small pool of Female Veterans with PTSD who were taking oral contraceptives. Oral contraceptives were an exclusion criteria of the clinical trial, so we discussed options with our study consultants and amended the trial to allow of their inclusion. The amendments were submitted to the Yale, VA Connecticut Healthcare System, and HRPO IRB.

Additionally, Dr. Aikins has spent considerable time meeting with Military Sexual Trauma treatment providers at the VA Connecticut Healthcare System Women's Healthcare Clinic and state Vet Centers. Female Veterans may be receiving psychiatric care from non-psychiatric healthcare facilities. This has further increased the pool of potential participants.

KEY RESEARCH ACCOMPLISHMENTS

- A 600-Veteran mailer from the VA Connecticut Healthcare System generated 40 potential participants, the majority of which failed to meet the screening criteria.
- The most-frequent reason cited for not participating was stigma-related/privacy concerns, with medications as the next most-frequent exclusion criteria.
- After discussion with study consultants, inclusion criteria were amended to allow for participants to be on stable doses of medications during study.
- New recruiting procedures implemented in Summer 2010 has yielded new pool of eligible participants.
- Additional new recruiting procedures in place to increase participation flow.

REPORTABLE OUTCOMES

Female OIF/OEF-era Veterans with PTSD are extremely reluctant to engage in either clinical services or clinical trials. Unlike Male Veterans from the same war theatre, Female Veterans do not appear to be engaged in ongoing VA psychiatric treatment, which significantly limits the ability for our team to establish rapport. Further, the Veterans that have contacted us indicated the use of oral contraceptives, which was one of several exclusion criteria. After amending the protocol to allow for stable doses of oral contraceptives, we have implemented new recruitment procedures and begun to enroll participants.

CONCLUSION

This research addresses important issues regarding the treatment of Female Veterans with PTSD. However, the ability to engage this community has proved to be much more difficult than originally anticipated. We have revised the protocol to better match the profile of potential participants while still address the research objective. New recruitment procedures have increased participation.

REFERENCES

N/A